Appendix A

Comments and Responses

Included in this attachment are all comments received by DOE on the Draft DOE/EA-1547D. Several public comments presented views and concerns not related to the scope or content of the Proposed Action. Examples of these comments include statements in general support of, or opposition to the future potential uses of FFTF, or perceived inequities and political aspects of the DOE activities. DOE considered and recorded these concerns, but has not included analyses of these issues in this EA. Those comments considered relevant to the future decommissioning decision pending in DOE's Tank Closure & Waste Management EIS have been forwarded.

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Comments on the Draft Fast Flux Test Facility Environmental Assessment (EA) For Proposed Sodium Residuals Reaction/Removal and Other Deactivation Work Activities

Richard I Smith, P.E.
February 15, 2006

The document appears reasonably complete, and generally describes the proposed activities adequately. However, there are several items not mentioned or discussed that could be of some significance. Perhaps these items are included, but I couldn't find them.

(1) Consideration of recycle of non-radioactive materials. It would seem likely that the secondary sodium loop would be uncontaminated by radioactivity. If that is so, then it would make good sense to consider recycling the piping, pumps, and heat dump exchangers into commercial scrap channels, rather than burying them in ERDF and taking up valuable disposal space. If the sodium cleaning and disassembly operations began with the secondary loop, the planned sodium cleaning stations would still be uncontaminated, and the cleaned piping, etc., should be acceptable into the commercial recycle stream. There may be other segments of the plant systems that are still uncontaminated, and those systems should also be cleaned and recycled. In any event, the work plan should discuss this possibility and justify why recycling was rejected.

It would be interesting and useful to have an indication of how much of the total plant piping, pumps, etc., would be suitable for recycle and how much would require regulated disposal. A general characterization of the radioactivity on the components requiring regulated disposal should be provided for inclusion in the total site inventory used in the site composite analyses.

(2) Treatment of the large volume of sodium hydroxide liquid arising from the sodium cleaning operations. I may be mistaken, but I thought the LERF/ETF complex was supposed to remove the chemicals from the water, appropriately treat and package the chemicals/radioactivity, and dispose of the treated wastes in an appropriate disposal facility, while discharging the clean water to the soil. I could find no discussion about characterization of the chemicals/radioactivity removed from the liquid solution, nor of the treatment method for stabilizing and immobilizing the solid waste stream arising from treatment of the solution stream. Also, no indication of the types and numbers of containers of immobilized waste arising from these treatments, nor the volume of disposal space required to accept these wastes. Because these wastes will contain some inventory of radioactive materials, they could have an effect on the size of the total site inventory examined in the site composite analyses. In any event, the characterization and quantity of immobilized wastes should be presented, if only to show that they are inconsequential in the total picture.

Response to Mr. Richard I Smith comment of February 15, 2006

In January 2000, the Department placed a moratorium on the release of volumetrically contaminated metals pending a decision by the NRC whether to establish national standards. In July 13, 2000 in memorandum "Release of Surplus and Scrap Materials", the Department also suspended the release for recycling of scrap metals from radiation areas within DOE facilities as well as release of scrap metals for recycling if contamination from DOE operations is detectable. For FFTF, the generally accepted assumption is that the tritium levels in the secondary coolant system had reached equilibrium with tritium levels in the primary cooling system during FFTF Operations. Laboratory analysis of the primary sodium in February 1993 found tritium concentrations of 1.6E-7 curies per gram. The "Volumetric Release Criteria" is the same as the detectability limit, which for tritium is 400 pci/l. Washing of the pipe and components would not achieve this release criterion.

The EA describes the treatment of the secondary waste resulting from processing NaOH at the Effluent Treatment Facility. The treatment and disposal is included in the ETF's annual waste volume projection. The ETF disposes of waste in accordance with CERCLA.

March 9, 2006

Mr. Douglas H. Chapin

NEPA Document Manager

U.S. Department of Energy

P.O. Box 550, Mailstop A3-04

Richland, WA 99352

Subject: Comments on Draft FFTF EA for Proposed Sodium Residuals Reaction/Removal and Other Deactivation Work Activities

Dear Mr. Chapin

Thank you for the opportunity to provide comments on the Fast flux Test Facility Draft Environmental Assessment for Proposed Sodium Residuals Reaction/Removal and other Deactivation Work Activities. I did some investigation related to the selection of superheated steam for this project, as referred to on page 2-2 of this EA, for the reaction and removal of residual sodium. I was able to locate a copy of the study: Fast Flux Test Facility Sodium Residual Cleaning Process Selection (HNF-26715, Rev.1) that led to the selection of superheated steam.

In the UK, there is a vast amount of experience using the more proven sodium residuals cleaning method, which in this report is called Water Vapor. Our UK company RWE NUKEM Limited, has been involved in most of the UK work and has extensive experience in the D&D of sodium and NaK cooling systems for reactors located at Dounreay. We call the Water Vapor approach WVN or Water Vapor Nitrogen. In the FFTF major D&D procurements of the past two years we were on a team that planned to use the WVN approach. In putting together our proposal, we also looked at the other sodium residual cleaning options and came to a different conclusion than that in the above report.

To prepare our prior proposals for cleaning out FFTF system residual sodium, we laid out an extensive plan for cleaning out the residuals. This included reducing sodium pools to a minimum. One factor in our decision was that whereas WVN can be used effectively in the 40-80C range, we believe that there is a range between 80 and 315C where the reaction between sodium and steam is slowed. Another factor favoring WVN is that the hydrogen concentration is always maintained below the deflagration point, in the event that oxygen became present, compared to relatively high concentrations of hydrogen with the superheated steam process.

We concluded that it would be very difficult, if not impossible to heat all of the sodium residual containing sections of the FFTF to a temperature in the range of 212 to 315C

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Mission Statement:

To provide safe, compliant, and cost-effective radioactive waste management solutions through the innovative application of proven technologies.

for the use of superheated steam. In addition to difficulty heating the FFTF components to temperature, there may be further issues regarding total and complete reaction of the sodium pooled in the bottoms of vessels or isolated areas. However, I will note that we did propose to use superheated steam for cleaning small bore pipe and other removed components in the MASF at the FFTF site.

We have used steam jetting in the past to clean out sodium wetted components and we have used WVN in the past to clean out sodium wetted rigs and reactor equipment. More recently, at the PFR reactor our expertise has been utilized to address the safety case for the WVN and we have been recruited to assist our client with the upgrade of WVN skids to make them fit for purpose. We have also recently completed trials on WVN cleaning of sodium residuals from drums in conjunction with a bulk sodium disposition facility, as a means to clean out sodium drums once emptied.

Fluor has decided to utilize superheated steam for cleaning the residual sodium including the potentially deep sodium pools. While there may be some pops and bangs with WVN, they are usually contained due to the smaller quantity of sodium and a lower hydrogen concentration. In the case of using superheated steam, we expect that there will probably be a lot more pops and it would not be impossible to get a localized area where the heat generation is very significant.

Sincerely,

Jack McElroy,
Senior Business Development Manager

RWE NUKEM Corporation

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Response to Mr. Jack McElroy (RWE NUKEM) Comment of March 9, 2006

As described in the referenced report (HNF-26715) the Superheated Steam process was selected as the best available process for removing residual sodium from the FFTF considering past experience, process complexity, process hazards and process flexibility. The EA also recognized that in select instances WVN as an alternate process could be implemented on a small scale.

It is acknowledged that there is probably more experience world wide with the Water Vapor process than with any of the other processes for removing residual sodium. Fluor Hanford/FFTF personnel also have more experience with the Water Vapor process than any of the other processes. The most recent Fluor Hanford/FFTF experience has been with the Superheated Steam process and this experience has clearly demonstrated its advantages.

One of the major advantages of the Superheated Steam process is that it proceeds at a fairly rapid but steady rate compared to the Water Vapor process. This is due to a combination of effects attributed to the higher water vapor content and higher temperatures of the process. Liquid water does not accumulate in the system using Superheated Steam leading to a much more controllable process. Perhaps most importantly is the attribute that allows the sodium hydroxide to settle to the bottom of sodium pools allowing the process to continue. The WVN's characteristic process tends to create a top layer on pooled sodium isolating the sodium from the moisture. Experience with the Water Vapor process shows that the reaction process can sometimes stop and then restart violently unless the hydroxide layer is periodically removed.

The higher hydrogen levels developed in the Superheated Steam process is a direct result of the higher reaction rate but are safe and acceptable provided that oxygen (air) intrusion into the system is prevented. This has not been a problem with application of the Superheated Steam process.

It should not be difficult to heat all of the sodium residual containing sections of the FFTF to the temperature desired to initiate the Superheated Steam process as stated in the EA (minimum of 212°F [100°C], not the 212 to 315°C stated in the comment). Most sodium containing systems at FFTF are provided with electrical trace heat capable of heating the systems to a minimum of 200°C (usually considerably higher). The reactor vessel can be heated with its gas heating system. It also includes two immersion heaters that were used during sodium drain and may be used to supplement the heat provided by the hot gas system. Also, the planned Superheated Steam cleaning systems will include the capability to deliver hot inert gas (e.g., nitrogen) to the systems to help heat them prior to introducing steam. Finally, the energy produced by the reaction between the moisture and sodium adds additional heat.

It is agreed that deep pools of residual sodium can present a problem in the reaction process. For that reason, every reasonable effort has been made to eliminate such pools during the sodium drain process. We generally anticipate sodium pool depths of no more than a few

inches. In any case, for the reasons discussed previously, the Superheated Steam process is considered more capable of safely and efficiently dealing with deeper sodium pools than the Water Vapor process. This is especially true if these pools exist in locations where periodic removal of the sodium hydroxide is not practical or possible. Our experience is that "pops and bangs" are more likely and more severe with the Water Vapor process than with the Superheated Steam process. The pops and bangs are the result of rapid reactions (and the resultant rapid energy production) caused by the interaction between liquid water and sodium; the presence of liquid water in the system is minimized in the Superheated Steam process. As stated previously, the rate of reaction can be controlled much better using the Superheated Steam process than the Water Vapor process. Temperatures can be reliably controlled to well below the limits of the FFTF systems, all of which are designed for steady operation between approximately 450 and 550°C (and are capable of short term operation at substantially higher temperature).

COMMODORE
ADVANCED SCIENCES, INC.

March 16, 2006

Douglas H. Chapin
NEPA Document Manager
U.S. Department of Energy
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RE: DOE/EA-1547D, FFTF Draft Environmental Assessment

Mr. Chapin:

In September 2005 representatives of the world's owners of liquid metal cooled fast reactors met in Cadarache, France, as a part of the International Atomic Energy Association's (IAEA) technical meeting covering decommissioning of these facilities. The records of the proceedings, some 900 pages long, covered every conceivable method of removing residual sodium from reactor components. The IAEA proceedings only mention ammonia twice (Fermi), and superheated steam once (FFTF). Numerous references were made to steam-gas and other processes such as Wet Vapor Nitrogen (WVN) to remove residual sodium from reactors.

The FFTF draft Environmental Assessment (EA) mentions ammonia several times, with the following conclusion:

> **The anhydrous ammonia process was not developed and tested as part of the LMR program and it has not been used to remove sodium from equipment as part of operations or maintenance of a LMR and has not been used for the deactivation of an LMR.**

We offer an equally valid and similarly condemning statement about the superheated steam process that we believe invalidates this major portion of the draft EA:

> **The superheated steam process ("SSP", which created a flash fire/explosion at FFTF on November 6, 2005, and is recommended as the preferred alternative in the draft EA) was not developed and tested as part of the LMR program, has not been routinely used to remove sodium from equipment as part of operations or maintenance of a LMR, and has not been used for the deactivation of an LMR.**

The EA describes a completely different superheated steam process than is described in both the Fast Flux Test Facility Sodium Residual Cleaning Process Selection (HNF-26715) and the descriptions of the SSP on a vendor's web site (the vendor responsible for the November fire/explosion). The EA assumes that the steam is heated to about 400°F, and the equipment to be cleaned is pre-heated to a minimum of 212°F.

The EA statement that "As the superheated steam reacts with the metallic sodium, the temperature increases to ~600-800°F" does not match the essential parameters of this particular version of the superheated steam process, *i.e.*, one cannot guarantee that the sodium hydroxide will remain anhydrous and that it will be molten at all times when the steam is reacting with sodium.

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Mr. Douglas H. Chapin
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The time it takes for sodium hydroxide's temperature to exceed ~605°F and become and stay molten is a function of a number of processing and system parameters. Initial pre-heat temperature of the component being cleaned, heat capacity of the system being cleaned, initial pre-heat temperature of the steam, moisture injection rate, and other factors influence whether or not and how fast molten sodium hydroxide will be formed. **Consequently, the EA is addressing a set of processing parameters that cannot be reasonably assured with the result that the safety and performance outcomes of the draft EA have been seriously compromised even if this very hot, hydrogen gas creating, dangerous, and costly DOE preferred alternative were safe – *and clearly it is not safe* as evidenced by experts' reports noted below, recent shifts away from rapid, vapor/steam processes by the British after years of study and testing, and the recent flash fire/explosion at FFTF.**

Both HNF-26715 and the vendor's web site for the SSP assume that anhydrous sodium hydroxide is formed and melts throughout the system being treated, requiring temperatures greater than 605°F at all times (*"(sodium) pool temperature would be ideally maintained above 344°C (644°F)"*, reference vendor's web site). To get the bulleted benefits touted by the vendor, it is necessary that the sodium hydroxide be anhydrous and that it be liquid:

- *"The anhydrous caustic stays molten (above 605°F), so there are no inclusions"*
- *"The density of the molten caustic is significantly higher than the alkali metal, so the caustic settles at the bottom of the vessel and the metal stays at the top, continuously exposing fresh surfaces for reaction."*
- *"Alkali metals are typically not miscible with their caustic reaction products, so there is a distinct interface with the metal on top, making the end point of the reaction easier to detect."*

I am enclosing a CD containing the full transcript (all 900 pages) of the most recent and most thorough review of reactor sodium residuals removal operations anywhere in the world. Here is what the IAEA participants (seasoned experts) conducting residual sodium removal from shut-down reactors had to say last fall about sodium steam removal processes:

Fermi 1:

"Most of the sodium processing at Fermi 1 has been using steam.

Lessons Learned - learning occurs during each new system being processed. Some lessons learned about processing at Fermi 1 are as follow.

- *The vent path configuration is important. The vent needs to be large enough that it will not be plugged with NaOH particles. In one case, the sodium vent line did plug with NaOH when there was a right angle elbow approximately one meter above the top of the tank being processed.*

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- *A hot reaction or supplemental heat better ensures sodium does not become trapped under the NaOH.*
- *Unfortunately, heating also causes hazards. If propane is used, CO_2 is a concern.*
- *Hot surfaces can burn people or cause fire retardant materials to ignite, even if electric heat is being used. Plugs of sodium can remain underneath processed sodium. For example, sodium remained in a secondary cold trap bottom drain line, even though the cold trap was processed with steam and flooded with water.*
- *The primary sodium storage tanks each had a bottom stub. At the end of processing, the procedure required the bottom stub be heated. When heated, the sodium in the stub melted and rose into the NaOH and then reacted, as intended."*

Kazakhstan BN350

"Taking into account the significant temperature and speeds of chemical reactions in process of the steam-gas washing, possibility of alkali cracking of the construction materials, failures of the integrity of the circuits and generation the hydrogen and oxygen fire-dump mixture, the safety level of the steam-gas washing technology for BN-350 reactor conditions could not be considered as satisfactory. Additionally the (sic) significant amount of derived radioactive wastes is produced in the process of the steam-gas washing. These radioactive wastes should be treated."

Superphenix

"Hot wet vapor nitrogen (WVN) was selected as the preferred option from safety and efficiency standpoints after testing for Superphenix cold traps."

Summary and Conclusion of Session 4.1: Reactor decommissioning strategy

"In this session three presentations were made for three different plants: Dounreay, FFTF and Phenix. In each presentation, different kinds of treatment for sodium residues removal were presented:

- *Dounreay use the WVN (Water Vapour Nitrogen) process without draining of the caustic soda. They developed ten years before.*
- *FFTF cleaned the reactor vessel (FFTF mockup) with super heated steam in 7h.* (writer understands the amount of sodium removed from the FFTF mockup was insignificant compared to amounts of sodium removed from other LMR's by other methods).
- *The Phenix solution up to now is a CO_2 passivation method for the residual sodium."*

We are very surprised that DOE would summarily select in this draft EA a process for the removal of the majority of the FFTF residual sodium that is fraught with fundamental safety problems and challenges. There appears to be an unwarranted bias by DOE towards an extremely dangerous, high temperature process requiring supplemental heating of

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reactor components, superheated steam, and molten anhydrous sodium hydroxide – all in the presence of copious quantities of fire or explosion-prone hydrogen gas generated throughout the processing cycle. The site-wide emergency alert event on November 6 was caused by a vendor using the referenced superheated steam process on a relatively simple piping system containing relatively small amounts of NaK. It would logically appear that a small explosion in a small system might extrapolate linearly to bigger systems.

With the resources available to DOE, it is unfathomable that DOE has not yet evaluated safer and perhaps much more economical sodium removal technologies, *e.g.*, Commodore's cold (room temperature) competitive technology that simply dissolves sodium, NaK, and other alkali metals in-situ or ex-reactor, and does not produce hydrogen as a by product. To my knowledge, no engineer or technical person in the entire Department of Energy has actually witnessed how simple and safe (and economical) it is to dissolve sodium in anhydrous ammonia. Rather, conclusions regarding this process appear to have been drawn based on unfounded concerns over the use of anhydrous ammonia – one of the ten most produced chemicals in the world, used safely in massive quantities throughout America's agricultural industry.

In summary, Commodore finds the EA seriously deficient and requests that you revise it and provide in the revised EA a method for the potential use of safer, competitive, alternative technologies for this vital work that needs to be performed safely, efficiently and cost effectively.

Thank you for the opportunity to comment.

Sincerely,

O. M. Jones, President

OMJ: do

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Response to Mr. O. M. Jones comment of March 16, 2006

As described in the referenced report (HNF-26715) the Superheated Steam process was selected as the best available process for removing residual sodium from the FFTF considering past experience, process complexity, process hazards and process flexibility. The EA also recognized that in select instances alternative processes considered could be implemented on a small scale. These include dissolution of sodium in ammonia. DOE considered in its evaluation of alternative residual cleaning processes the information provided in the comment and is familiar with the information provided by the September 2005 IAEA meeting at Cadarache France. A representative from the DOE FFTF Program Office was in attendance.

The superheated steam process parameters referred to in the draft EA were intended as representative conditions. The EA relies on the superheated steam process described in HNF-26715 in which equipment is normally heated before steam is injected, uses multiple injection points, vents gases to a scrubber, and continues for a period beyond the point that no hydrogen is being released. As stated in the comment, the actual conditions achieved are a function of system and processing parameters. Extensive experience using the superheated steam process to remove residual sodium from both reactor and non-reactor systems shows that it can be controlled such that it is safe and effective. The superheated steam process sodium cleaning process was successfully executed at the mockup of the FFTF reactor vessel on approximately 350 liters of sodium residuals. This cleaning evolution was performed in a complex geometry typical of that which will be encountered in cleaning the FFTF systems. The unexpected reaction that occurred during the cleaning of residual NaK from a system at the FFTF in November of 2005 did not occur during the actual steam cleaning process. Rather, a small quantity of NaK was pushed out of the system during system purging with dry inert gas into an effluent scrubber that had a pool of water in the bottom. A rapid reaction between the NaK and water resulted in a small, momentary flame at the exit of the scrubber.

Although the comment states that the superheated steam process has not been used for the deactivation of an LMR, the superheated steam process has been, and continues to be, the primary process used in the removal of residual sodium from the Fermi 1 reactor located near Detroit Michigan. This is described in the IAEA proceedings referenced in the comment. The paper presented by the manager of the Fermi 1 decommissioning project described the selection of the steam in nitrogen process as the process with the best probability of reaching sodium residuals and lowest in risk. "Most of the sodium processing performed at Fermi 1 has been using steam." "Overall, steam processing experience at Fermi 1 has been favorable." A lesson learned identified at Fermi 1 concerning the plugging of a vent line with sodium hydroxide particles was found to be relatively minor operational problem that was easily and safely resolved.

The French have selected a "hot water vapor nitrogen" process for cleaning sodium from the fifteen cold traps from the Superphenix reactor. The process, as described in a paper presented at the referenced IAEA meeting, is substantially the same as the superheated steam process selected for use at the FFTF. The reasons given for selecting the process are the same as those for selecting the process for FFTF.

The moist carbon dioxide process (commonly called passivation) has been selected to react the residuals at the BN350 reactor in Kazakhstan due to concerns with the steam-gas washing process. At this time, the passivation process has only been selected for dealing with residuals in the reactor vessel due to the presence of relatively deep layers of sodium trapped in inaccessible regions of the vessel. The FFTF drain processes have been designed and executed to assure that no such deep pockets remain. Even if they did exist, the superheated steam process is capable of safely and efficiently reacting them. Processes for cleaning other portions of the BN350 plant will be selected at a later time.

The EA adequately considered the ammonia process along with other alternatives and recognized that in select instances these alternative processes could be implemented on a small scale in the proposed action.

From: Carl Holder [mailto:holdercarl@hotmail.com]
Sent: Thursday, March 16, 2006 9:48 AM
To: Al Farabee; Chapin, Douglas H
Cc: Claude Oliver
Subject: Global Nuclear Energy Partnership
"The closed fuel cycle model envisioned by this partnership requires development and deployment of technologies that enable recycling and consumption of long-lived radioactive waste." President George W. Bush, February 2006.

Develop Advanced Burner Reactors
Demonstrate and deploy Advanced Burner Reactors to produce energy from recycled nuclear fuel. (sodium cooled fast reactor burning plutonium fuel).

Source: www.gnep.energy.gov

Dear Mr. Farabee:

The Public Comment period for EA1547D must remain open until release of official DOE notice which as announced will include Expressions of Interest and concurrent Notice to Prepare a GNEP EIS. This is significant new information for your consideration.

As previously submitted, I support the NO ACTION alternative.

Please advise.

Best regards,

Carl Holder

Pasco, WA 99301

509-547-7343

CC: Douglas Chapin, NEPA Document Manager, USDOE-RL

Some more news.

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Domenici Subcommittee Studies GNEP as Key to Long-Term Nuclear Power & Waste Problems
from the Office of Senator Pete V. Domenici

Thursday, March 2, 2006

WASHINGTON – U.S. Senator Pete Domenici today pledged to work toward implementation of President Bush's Global Nuclear Energy Partnership (GNEP), a program to address new solutions to deal with wastes associated with the burgeoning nuclear power sector.

Domenici's Senate Energy and Water Development Appropriations Subcommittee today held a hearing to receive Department of Energy testimony on GNEP. The plan would address nuclear waste through an advance fuel cycle that will reduce the overall volume of waste and protect against possible proliferation by eliminating separated plutonium.

The administration has requested $250 million through the DOE Office of Nuclear Energy for an advanced Fuel Cycle Initiative (ACFI).

"The United States in the 1970s abandoned its leadership on nuclear recycling and let the rest of the world pass us by. With the creation of the GNEP, we're getting back in the game," Domenici said. "I am all for setting forth on a comprehensive global nuclear strategy that promotes nuclear nonproliferation goals while helping resolve nuclear waste issues."

"With GNEP, we begin to close the cycle on nuclear waste in ways that prevent proliferation and reduce both the volume and toxicity of waste. By recycling spent nuclear fuel, we can reuse the uranium, which is 96 percent of spent fuel, and separate the most toxic radioactive material to be burned in an advanced burner reactor. By reusing uranium fuel and burning the transuranic material in a new generation of modern reactors, we can reduce the amount of waste placed in Yucca Mountain by a factor of 100," he said.

Response to Mr. Carl Holder comment of March 16, 2006

DOE/EA-1547 evaluates the potential impacts of sodium residuals removal only, and does not revisit previous DOE decisions concerning the potential reuse of the FFTF as a nuclear reactor. Those decisions and decision documents are discussed in the EA. Based on the evaluation performed in the EA, if a FONSI decision were to be issued, it would constitute a determination by DOE that the impacts were evaluated and found to be not significant enough to require preparation of an EIS, and that DOE may proceed to implement the proposed action. This comment has been forwarded to the Office of Nuclear Energy for consideration in the GNEP EIS.

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March 17, 2006

Mr. Al Farabee
FFTF Manager
US Department of Energy
P.O. Box 550
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Via Telefax 509 376 0177

Copies Sent US Mail
Samuel Bodman, Secretary of Energy
Douglas Chapin, NEPA Document Manager

RE: Public Comment, EA 1547D (Supplemental)

Dear Mr. Farabee:

This letter supplements my letter to you dated March 2, 2006. I must bring to your attention significant new items that have developed since I wrote you last. With regard to the Global Nuclear Energy Partnership (GNEP) announced by the President last month, the Department of Energy intends to publish in the Federal Register the Department of Energy's official notice seeking Expressions of Interest from communities and from private industry regarding the location and construction of facilities that will be integrated to support the mission of GNEP. Key assets to be called for in the upcoming Federal Register notice exist in the FFTF 400 Area at the Hanford facility. The notice in the Federal Register is deemed notice to your department and provides reason for a cessation of any plan to demolish facilities in the FFTF 400 Area as these have significant value for the Nation. There is no rational basis to call for the decommissioning of the facilities in light of the priories known to the Department to be evidenced by the upcoming publication in the Federal Register.

CHARLES ST. GEORGE HOLDEN
ATTORNEY AT LAW

The Department of Energy is soliciting Expressions or Statements of Interest from communities around the United States to participate in the development of needed facilities. The Department seeks expressions of interest from communities having the personnel, land and facilities to make nuclear energy sustainable by the construction of demonstration facilities using closed nuclear fuel cycle models.

The Department has budget authority to commence planning, to develop pilot plants to 1) recycle fuel, 2) to make new fuel from plutonium and minor actinides, and 3) to fission away and to transmute the transuranics: neptunium, plutonium, americium and curium in a fast spectrum plutonium burning reactor. The fissioning away of the waste will most likely be done in a liquid-metal sodium cooled fast spectrum reactor. Advanced Fuel Cycle activities are fundamental for long term environmental management of nuclear energy and area 400 at Hanford has the recycling facilities and the containment for much of the research. Further, the FFTF was sodium cooled and the system in place could be used for the testing of other liquid metal coolants or organic coolants.

The Notice in the Federal Register is a "significant new event" within the meaning of NEPA. An Agency's NEPA analysis must be supplemented if there "are significant new circumstances or information relevant to environmental concerns and bearing on the proposed action or its impacts..." 40 C.F.R. Sec 1502.9 (c). I quote this language from the decision of the trial court filed in the matter Benton County v. US Department of Energy No CT-02-5100-EES filed on February 28, 2003. Just in case the passage of time has caused the Department's local representatives to overlook language from the trial judge's opinion, I direct the readers in the Department to review the decision at this time along side of the text in the Federal Register. The District Court did not rule on whether the FFTF facilities could be decommissioned because there was no record of decision concerning a decommissioning plan because the NEPA analysis did not deal with decommissioning of the FFTF. There is no reason to decommission the facilities presently.

"Prior to committing any resources to any one of the options for decommissioning, the DOE must prepare an EIS. 40 C.F.R. Sec.1502.2 (f). This ensures the opportunity for public comment. Upon completion of the EIS, DOE will have made a final decision on decommissioning that can be the subject of a lawsuit seeking court review. "(Order at p. 14.)

The Hanford Site Fast Flux Test Facility Closure Project was cancelled by letter dated December 22, 2005 under the signature of the contracting officer Andrew H. Wirkkala. The 2003 decision of the trial court no doubt played a factor in the December, 2005 decision by the Department to cancel the solicitation to demolish the facilities. The NEPA work has not been done and the Federal Register notes a "significant new event" the potential use of some or all of the facilities for the GNEP.

Because of the Federal Register's Expression of Interest, the DOE Environmental Management division must cease considering the decommissioning of the FFTF facilities

CHARLES ST. GEORGE HOLDEN
ATTORNEY AT LAW

since the notice in the Federal Register bearing today's date is a "significant new event." Not only would the Secretary of Energy find that the continuing actions of staff to decommission the facility were mistaken and contrary to Agency policy during the site selection phase of the GNEP protocols, the United State District Court would be likely to hold that decommissioning the facilities is arbitrary and capricious within the meaning of applicable Ninth Circuit authorities as such administrative action would be contrary to present agency policies.

Now, the leadership of the Department of Energy is requesting the Hanford community to provide the Department with a statement of interest regarding the facilities needed for realizing the important international goals of the GNEP. These same facilities should not be wasted under an outmoded and ill-considered environmental rubric.

EM cannot be heard to say that Hanford's assets are not needed for consideration by the leadership of the Department of Energy. The facilities at the FFTF area can be used for fuel recycling, fuel fabrication and for testing of liquid metal cooled fast reactors. There is no rational basis to call for an EIS for the decommissioning of the FFTF when the facilities are needed for the evaluation of means and methods presently available through the international and domestic communities on subjects dealing with the treatment of fission products and transuranic materials to enhance the sustainability of nuclear energy. The arbitrary and capricious acts of the lower officials of the Department could be established by their failure to heed the President's call for answers to the national addiction to oil.

A companion to the Expression of Interest is the Notice to Prepare an EIS. GNEP is a national energy initiative tying together numerous international partnerships. The EIS will undoubtedly evaluate key Hanford Area capability. There is high likelihood that some FFTF restart or other significant usage is an alternative in scoping the GNEP EIS. Further action to accomplish an expanded work scope found in the proposed EA1547D could be established to be arbitrary and capricious for failure to protect the advanced planning precepts of the National Environmental Policy Act moving forward in the GNEP EIS. With the GNEP EIS the likely action will be to make use of the facilities not covert them to rubble.

The design of the Fast Flux Test Facility included liquid-metal cooling, specifically sodium cooling, and the use of plutonium as a fuel. Because the present national and international effort is focused on finding ways to make nuclear energy more sustainable and to reduce the quantity of transuranics needing long term storage under guard and on ways to reduce the world's rapidly growing inventory of civilian produced plutonium, any steps anticipating any DOE plan to convert the FFTF facility to rubble is inconsistent with the national agenda set by the political leadership in the GNEP. The facility has already been used to burn plutonium and this use could be revived as a pilot plant under a new fuel plan that could also burn the transuranics. To test the viability of liquid metal cooling technology presently available or to be developed will require the use of the FFTF as an existing test platform for many purposes, short of start up.

CHARLES ST. GEORGE HOLDEN
ATTORNEY AT LAW

Because the facility exists it should be considered an asset giving the local community a head start on finding the best practicable technology to make nuclear energy more sustainable and proliferation resistant. It does not serve the national interest for anyone employed by the Department of Energy to assert that the FFTF should now be filled with cement, converted to rubble or otherwise demolished when the Department has published its GNEP needs in the Federal Register.

Further, the existing facilities could be used to house, inside of certified containment, smaller reactors to make medical isotopes. The Department of Energy has been criticized by its Inspector General on the subject of lapses in the medical isotope program. To correct the lapses noted by the Inspector General in his report of November 2005 (DOE/IG-0709), the existing facility must also be considered also as a home for a small fast spectrum reactor to produce medical isotopes and to be a test reactor to promote the development of small transportable reactors all called for by the GNEP. NASA also has requirements for test reactor operations inside of certified containment.

Most importantly the materials handling facilities located along side of the FFTF should be utilized in the national effort to develop fast spectrum fuels and to recycle spent thermal and fast spectrum fuels. This is integral to the President's program. Materials handing for fast spectrum and thermal spectrum fuels both virgin and recycled. fuel recycling programs will need to use the facilities. The Fuel Material Examination Facility was designed for exactly the purposes that are called for by the GNEP initiative. FMEF is mission ready. This asset is complimented by the test platform adjacent to it.

Further, the State of Washington requested that environmental funding be put to use on higher priority projects and not for converting the FFTF to rubble.

In conclusion, I believe that the Secretary's office will weigh in on any ill considered planned destruction of facilities greatly needed for the efforts contemplated by Congress's, the Secretary's and the President's Global Nuclear Energy Partnership.

Very Truly Yours,

Charles S. Holden

4

CHARLES ST. GEORGE HOLDEN
ATTORNEY AT LAW

CC
Mr. Douglas H. Chapin, NEPA Document Manager,
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,
Fax: (509)376-0177,
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Office of the Secretary of Energy
Honorable Samuel Bodman
Attention National Policy Coordinator
Global Nuclear Partnership
Department of Energy
1000 Independence Avenue
Washington DC 20585

Response to Mr. Charles S. Holden comment of March 17, 2006

DOE/EA-1547 evaluates the potential impacts of sodium residuals removal only, and does not revisit previous DOE decisions concerning the potential reuse of the FFTF as a nuclear reactor. Those decisions and decision documents are discussed in the EA. Based on the evaluation performed in the EA, if a FONSI decision were to be issued, it would constitute a determination by DOE that the impacts were evaluated and found to be not significant enough to require preparation of an EIS, and that DOE may proceed to implement the proposed action. This comment has been forwarded to the Office of Nuclear Energy for consideration in the GNEP EIS.

From: Clinton Bastin [mailto:clintonbastin@bellsouth.net]
Sent: Friday, March 17, 2006 01:13 PM
To: Chapin, Douglas H
Subject: RE: EA1547D: US Energy and Nuclear Technology
Importance: High

Mr. Chapin, this is being resent to include RE: EA1547D

Mr. Chapin, some of my friends and colleagues at Richland have suggested that I submit the following letter to leaders of America into the Public Comment record (RE: EA1547D) for Hanford that is open through today:

"**Clinton Bastin,** Chemical Engineer, United States Department of Energy (Retired) Vice President for the United States, World Council of Nuclear Workers, Chair, Georgia Section, American Nuclear Society, 987 Viscount Court, Avondale Estates, Georgia 30002, Telephone 404 297 2005 E-Mail clintonbastin@bellsouth.net

"March 16, 2006

"The President, The Vice President, Senate Energy Chairman Pete Domenici, House Energy Chairman Joe Barton, Constellation Energy CEO Mike Wallace, Southern Company CEO David Ratcliffe, Fisk University President Hazel R. O'Leary, GA Tech President Wayne Clough, MIT Institute Professor John Deutch, RPI President Shirley Ann Jackson, University of Miami President Donna Shalala, NRC Chairman Nils Diaz, *AJC* Publisher John Mellott, *NYTimes* Publisher Arthur Ochs Sulzberger, Jr., Senator Saxby Chambliss, ANS President James Reinsch, NEI President Frank L. (Skip) Bowman, Energy Secretary Sam Bodman, Du Pont Senior Vice President Thomas Connelly, *Nuclear News* Publisher Betsy Tompkins

"Dear Mr. President, Mr. Vice President, Chairman Domenici, Chairman Barton, Mr. Wallace, Mr. Radcliffe, Dr. O'Leary, Dr. Clough, Dr. Deutch, Dr. Jackson, Dr. Shalala, Chairman Diaz, Mr. Sulzberger, Senator Chambliss, Mr. Mellott, Mr. Reinsch, Mr. Bowman, Secretary Bodman, Dr. Connelly and Ms. Tompkins:

"Management of energy and nuclear technology by the U.S. Department of Energy (DOE) and its laboratories is similar to that of the former Soviet Union (FSU). Since the United States works by competent corporate enterprise, the DOE/FSU system works against U.S. interests. This letter describes actions that led to this system and some of its adverse consequences. I propose that we form a "Partnership for America" to develop and implement a better approach to resolve long-neglected energy and nuclear technology challenges and avoid adverse consequences inherent in government management of complex technology.

"Manhattan Project Director Leslie Groves recognized in 1942 that the scale and complexity of reprocessing of irradiated nuclear fuels would be a challenge even to the most experienced chemical engineering organization. He asked the Du Pont Company to design, build and operate the nuclear reactor/reprocessing pilot plant at Oak Ridge, TN, and production facilities at Hanford, WA. Du Pont accepted the assignment, but insisted that it manage activities similar to that for its commercial activities.

"Manhattan Project scientists at the University of Chicago, many of whom had no industrial experience, believed that they were capable of carrying the project through to completion and that they had earned the right to do so. They participated with Du Pont in experiments at the Oak Ridge pilot plant, but after

completion of experiments had no further Project role. General Groves authorized them to operate the pilot plant in a production mode, a compromise of good safety and management practice. A 1994 DOE report of the Oak Ridge National Laboratory (ORNL) Chemical Technology Division history states "the first kilogram quantities of plutonium were produced (during this 14-month campaign) in the pilot plant."

"This "success" was a major factor in General Groves decision to create national laboratories whose scientists, often inexperienced with industrial technology, would be responsible to government officials, who lack incentives of corporate enterprise and accountability for their actions, and often lack experience with industrial technology and understanding of past successes, failures and evaluations.

"Production in the Oak Ridge pilot plant was not kilogram quantities but 326.39 grams.

"The pilot plant was a major effort of ORNL. From 1949 through 1952, ORNL pilot plant scientists and engineers directed the design, construction and initial operation of the Idaho Chemical Processing Plant (ICPP). The ICPP, whose function was to reprocess all highly enriched uranium (HEU) fuel from U.S. reactors and research reactors in other nations, incorporated ORNL pilot plant technology. A 1957 report prepared by ORNL and published by the Atomic Energy Commission (AEC) in 1957 for its policy on reprocessing of nuclear power plant fuels stated that ICPP operation had been successful, with a productivity of 80%.

"Productivity of the ICPP from startup through 1957 was not 80% but 3%.

"General Electric replaced Du Pont at Hanford in 1946, but did not provide corporate management similar to that of Du Pont. This resulted in many problems, particularly in reprocessing, and a later decision by GE to leave Hanford. **Failure of GE to learn from experiences at Hanford led to problems with its commercial reprocessing plant at Morris, Illinois.**

"Former U.S. Army Corps of Engineers officers of the Manhattan Project remained with the AEC to direct important programs. They told President Harry S. Truman about the outstanding achievements of Du Pont during World War II and the need for comparable effort for the AEC. President Truman asked Du Pont to design, build and operate the Savannah River Plant (SRP) to produce and process nuclear materials for important national programs. The 1990 Du Pont Book by W. P. Bebbington, *History of Du Pont at the Savannah River Plant*, describes many Du Pont achievements including best-ever safety, criticality control and radiation protection, and outstanding production, processing and reprocessing of many types of nuclear materials for space exploration, defense, medicine, research and industrial uses. The Du Pont Book does not provide full information about two exceptional activities of Du Pont at the SRP:

> **"Investigation of the nations only nuclear waste repository that was endorsed by a committee appointed by the governor of the state where the repository was located, and whose multiple, formidable, measurable geologic barriers would ensure isolation for geologic periods of time.**
>
> "The program for production of transcalifornium elements by irradiation of excess weapons plutonium in a superhigh neutron flux in C reactor, and processing for separation of transcalifornium elements in the Multiple Purpose Processing Facility in F Canyon.

"The proposal to Congress for continuing the investigation for a nuclear waste repository at the SRP was withdrawn in 1972 by AEC Chairman James Schlesinger and the transcalifornium production and processing program was cancelled.

"Nuclear energy is the ultimate source of all energy. Well-managed nuclear power is our safest, least polluting and potentially most abundant energy source to support civilization. However, U.S. type

nuclear power plants recover less than 1% of the energy in nuclear materials. Their use began and continued through 1974 with full expectation that used nuclear fuels would be reprocessed to permit more efficient use of nuclear materials, and to permit disposal of wastes that would not require indefinite safeguards, which cannot be assured.

"The successful reprocessing experiences of Du Pont provided full assurances that reprocessing of nuclear power plant fuels would be safe, successful and cost-effective.

"Implementation of the 1957 AEC policy on reprocessing for commercial nuclear power included the assignment to Du Pont to receive, store and reprocess used fuel from nuclear power plants in the U.S. and those in other nations supplied by the U.S. I was assigned responsibility for AEC leadership of this program.

"However, the 1957 AEC policy also offered incentives for U.S. corporations to reprocess nuclear power plant fuels at prices comparable to those claimed for ICPP reprocessing. Officials and staff of some AEC Divisions promoted use in the U.S. and many other nations of the ORNL/ICPP pilot plant reprocessing technology. Scientists and engineers from Hanford, Idaho and ORNL who consulted for nuclear power plant operators and vendors also supported use of the pilot plant technology.

"Scientists and engineers from Britain, Belgium, Italy, Japan, South Africa, Germany, Sweden, Norway, Finland, Yugoslavia, Australia, India, France and Spain visited ORNL and ICPP to obtain information about pilot plant reprocessing technology and up to two years training at the ORNL pilot plant. (AEC also supported the design, by American Vitro, of the reprocessing plant at the Bhaba Atomic Research Center in Trombay (near Bombay), India, to recover weapons grade plutonium produced in CIRUS (Canada Isotope Reactor United States), which was based on the NRX reactor which was built by Canada and funded by the U.S. to produce plutonium for US nuclear weapons under a mutual security agreement).

"Highly enriched uranium irradiated in SRP reactors to produce tritium was shipped to the ICPP for reprocessing there. However, failure of the ICPP led to need to modify H Canyon in early 1959 to permit processing of HEU. The SRP F Canyon had been modified earlier to increase capacity from 4.5 to 14 tons per day of natural uranium irradiated for plutonium production.

"Thus AEC officials and technical staff at SRP knew that:

> **"technology being proposed for commercial reprocessing was flawed**
>
> **"return of used fuel from other nations for reprocessing in the United States was an important nonproliferation initiative, and**
>
> **"the huge economy of scale of successful reprocessing facilities was a strong incentive for a few reprocessing facilities in nations with large nuclear power programs, which would also limit proliferation threats.**

"They warned nuclear power plant operators about the problem, but to no avail. If operators had looked at accountability records, as I did in 1973, they would have seen the problem.

"Nuclear Fuels Services, Inc.(NFS), announced in early 1962 that it would accept the AEC offer and build and operate a reprocessing plant at West Valley, NY, to reprocess used fuel from U.S. nuclear power plants at costs comparable to those of the AEC policy announcement (less than $20 per kilogram). However, NFS decided that it would not reprocess used fuel from other nations.

"The AEC cancelled its program for receipt and reprocessing with successful technology of used fuel from nuclear power plants and its offer to accept return of used fuel from other nations.

"When the U.S. lost ability to produce enough oil to meet U.S. demands in 1970, President Richard Nixon declared a national commitment to efficient use of nuclear resources. Iran, then a U.S. ally and aware that the world would later lose the ability to produce enough oil to meet world demands, made a similar commitment, and ordered five large nuclear power plants from U.S. corporations.

"If the initial U.S. program had continued, fuel for those plants would have been leased to Iran and returned to the U.S. for reprocessing. But that program was no longer available, so Iran requested necessary support technology, including reprocessing. An AEC staff paper was prepared in 1972 to consider Iran's request, which would have provided ORNL/ICPP reprocessing technology similar to that provided to other nations. By this time, senior AEC officials were becoming aware of past mistakes in use and export of that technology and denied its transfer to Iran.

"Leaders of Iran were furious, cancelled the reactor orders with the U.S. and placed them with France and Germany, who agreed to provide reprocessing technology. The oil embargo against the U.S. occurred a year later. The conflict with the U.S. about critical future energy needs for Iran weakened the Shah Government and its efforts to move Iran into the 21st Century.

"Radiation exposures to workers at the NFS West Valley reprocessing plant in 1971 were well above maximum allowable Federal standards and rising exponentially, release of radioactivity to surface streams exceeded technical specifications and there were other problems. In March 1972, the AEC Director, Division of Compliance, wrote to the NFS President ordering a halt of operations.

"Allied Chemical Company accepted responsibility for operation of the ICPP in 1966. Its officials read annual reports indicating an economically attractive operation, joined forces with General Atomics (then owned by Gulf Oil Company, later Gulf and Shell Oil Companies) and decided to build and operate a reprocessing plant at Barnwell, SC., based on the ICPP technology, and some adaptations provided by French reprocessors.

"After AEC officials asked me to transfer to headquarters in 1972 to help resolve U.S. reprocessing problems, a visit to the ICPP revealed that safety, criticality control and radiation protection for workers were out of control. My efforts for improvements included making arrangements for detailed review of practices at ICPP by experienced Du Pont reprocessors and safety and radiation protection officials. There were improvements, but problems remained more than a year later.

"I mentioned concerns to a senior AEC official, who responded, "Yes, but the ICPP program is important, particularly for fuels from U.S. Navy ships and submarines. That HEU fuel is highly irradiated and contains a lot of uranium-236, the precursor to neptunium-237, which is used in SRP reactors to produce plutonium-238, which provides energy for vehicles that travel into deep space. It also contains a lot of neptunium-237." The statement was a reminder of forecasts from ICPP for delivery of neptunium to the SRP that never arrived, which raised questions about ICPP production and led to my comparison of accountability records with statements of production achievements in annual reports.

"The annual ICPP reports overstated production by a factor of about five.

"Allied Chemical Company officials were notified that their contract for operation of ICPP would be discontinued. But they also realized that their investment with General Atomics in the Barnwell reprocessing plant was based on false premises, and informally notified AEC officials that they would not operate the plant without support from the U.S. Government.

"During this same time period, Gulf and Shell Oil Companies as General Atomics were trying to commercialize High Temperature Gas-cooled Reactors, and relying on ICPP for projected reprocessing

costs, and a planned demonstration of the technology. Congress authorized the demonstration project, estimated to cost $30 million.

"During a design review, I realized that ICPP managers lacked understanding of the challenges of reprocessing HTGR fuels and notified the AEC HTGR program manager. He appointed a task force who reviewed project plans and concluded that the demonstration could not be carried out as planned.

"At the same time, General Atomics contracted with Bechtel for a conceptual design and cost estimate for the commercial reprocessing plant, and learned that the cost estimate provided by the AEC was underestimated by a factor of almost ten. Gulf and Shell Oil Companies left General Atomics and plans for commercialization of the HTGR were cancelled.

"In addition to Gulf and Shell Oil Companies, Atlantic Richfield, Exxon, and Getty Oil made major investments for important uses of nuclear technology for energy, but all investments were lost because they relied on misinformation from the AEC and successor agencies, could not meet low costs offered by operators of laboratory type facilities, or were cancelled as a result of government actions. Phillips Petroleum had operated the ICPP from startup until 1966 and was aware of problems.

"Boeing started construction during the early 1980s of a much more energy efficient uranium enrichment plant using gas centrifuges, but this was cancelled by DOE in order to support development by a national laboratory of another enrichment process - which has not been developed.

"With best technology for many important nuclear applications, Du Pont considered commercial nuclear initiatives, but was aware of problems from government and government laboratory management and domination of nuclear technology. Of particular concern were false claims of low costs and other advantages of facility concepts of inexperienced scientists and engineers in government laboratories. Knowing that properly designed facilities could not compete with those promised, Du Pont wisely decided not to proceed.

"From early 1973 until mid-1974, AEC technical staff under my leadership reviewed the status and history of reprocessing for lessons learned and made recommendations for reassignment of responsibilities to build on successes and avoid failures.

"I learned during a visit in October 1972 of formidable problems at General Electric Company's Midwest Fuel Recovery Plant (MFRP) that made successful operation of the plant unlikely. This information was shared with AEC officials and technical staff. Thus in July 1974, when GE notified the AEC that the MFRP was inoperable, leaders of AEC reprocessing programs were ready to lead efforts for successful reprocessing of nuclear power plant fuels.

"Later that month, AEC technical staff met with the Edison Electric Institute Nuclear Fuel Cycle Committee at EEI offices in New York City. The recommendation of Chairman Bill Lee (Duke Power Company President) coincided precisely with recommendations of knowledgeable AEC reprocessors: Deliver used fuel from nuclear power plants to the SRP for reprocessing there. However, our response was that SRP did not at that time have capacity in existing facilities to meet then present demands for reprocessing.

"An AEC General Manager's task force review endorsed recommendations of technical staff and reassigned responsibilities for commercial nuclear fuel cycle to the organization knowledgeable of reprocessing, i.e., the Division of Production. Management responsibilities were assigned to Du Pont.

"Designs were completed by Du Pont for fuel recycle (integrated fuel reprocessing and refabrication) facilities that would have precluded access to or accumulations of separated

plutonium and resolved other concerns. Cost for reprocessing would have been about $200 per kilogram, about one-fifth of French charges.

"Unfortunately, the AEC was replaced by the Energy Research and Development Administration, whose politically appointed leaders had no experience in or understanding of reprocessing and in particular the difference between successful facilities and those based on laboratory concepts that had failed and resulted in proliferation and proliferation threats. They reassigned headquarters program responsibilities for reprocessing from those who knew about successes and failures to those who did not. Management responsibilities were reassigned from Du Pont to ORNL.

"Du Pont designs that would have resolved problems were set aside in order to support reprocessing concepts that had failed, and research on other laboratory reprocessing concepts that had no potential for success. Presidents Gerald Ford, Jimmy Carter and Ronald Reagan did not seek and were not provided information about reprocessing facility designs that would have resolved problems.

"Failure of ERDA and DOE officials to distinguish between successful reprocessing technology and laboratory concepts that resulted in proliferation led to the U.S. myth that:

> "reprocessing is a proliferation threat;
>
> "flawed U.S. policies and programs based on that myth;
>
> "no plan or program for responsible disposal of nuclear wastes or efficient use of nuclear materials; and
>
> "the thirty-plus year moratorium on new nuclear power plants in the U.S.

"This moratorium, combined with concern about atmospheric pollution from coal-fired power plants, resulted in use of natural gas for all new electric generating plants, which has resulted in huge cost increases for natural gas to heat homes, increased imports and other problems and challenges.

"The need to end our addiction to imported oil is an important incentive for the end of the moratorium on nuclear power plants. Additional plants are being considered and will likely be built and operated safely and successively. But there are no plans for reprocessing to permit efficient use of nuclear materials or responsible disposal of nuclear wastes.

"The DOE and its laboratories are aware of the need for reprocessing. In July 2005 an Argonne National Laboratory (ANL) official testified to Congress that ANL's pyrometallurgical process was proliferation-resistant and would be needed to reprocess used fuel from future nuclear power plants.

"In 1991, the DOE's Office of Nuclear Energy asked me to evaluate ANL's pyrometallurgical process in order to develop criteria for a planned demonstration that had been endorsed by DOE officials, an ANL peer review group and a committee of the National Academy of Sciences.

"Major deficiencies were identified. Of most concern were high plutonium losses and great difficulties for measuring nuclear materials, which would permit an undetected diversion of significant amounts of plutonium. The process would not be proliferation resistant but a serious proliferation threat. These and other deficiencies were reviewed with DOE and ANL officials and staff and many others. No significant disagreement with findings was expressed.

"The DOE was established in 1977 to address energy challenges resulting from U.S. inability to recover enough oil to meet U.S. demands, and recognition that within several decades the world would be unable to meet world demands. It has:

"spent most of a trillion dollars and accomplished virtually nothing of value;

"failed to provide full and accurate information to Americans about the importance of nuclear power, the increased safety and performance of nuclear power plants as a result of coordinating efforts of the Institute of Nuclear Power Operators, and limitations of some energy sources such as solar generated electricity;

"failed to correct false allegations of great dangers of nuclear waste stored at DOE sites which has resulted in wasteful expenditures of scores of billions of dollars and greater dangers and radiation exposure to humans than if the work had not been done;

"failed to correct false allegations that plutonium is highly toxic and low levels of radiation are dangerous,

"dismissed all competent corporations that successfully managed activities,

"never addressed the indefinite proliferation threat from creation of geologic deposits of enough plutonium and neptunium-237 at Yucca Mountain to produce 120,000 nuclear weapons, and

"lost ability to produce nuclear materials needed for space exploration, defense, medicine, industry, research and other important applications.

"Its inability to produce tritium for nuclear weapons led to its production in nuclear power plants, a violation of nuclear nonproliferation policies of virtually all nations. Its inability to produce plutonium-238 needed for electric power for space vehicles such as Galileo at Planet Jupiter and Cassini at Planet Saturn has resulted in need to purchase this material from Russia, and plans for its production by laboratory personnel in laboratory facilities, a violation of good safety and management practice.

"The following ideas for a new approach are based on lessons learned from experiences that would avoid problems inherent in government and government laboratory management of complex technology and help resolve energy and nuclear technology challenges. They were initially proposed in my paper presented at the 1996 meeting of the Global Foundation (University of Miami Center for Theoretical Studies) in November 1996 and subsequently provided to and/or discussed with President Bill Clinton, Vice President Al Gore, former and present Senate Energy Chairmen Frank Murkowski and Pete Domenici and many others.

"A U.S. Energy and Nuclear Technology Board with ex-officio members and those appointed by The President with the advice and consent of The Senate that would meet periodically to recommend long-term energy and nuclear technology plans, policies, and strategies for America

"Competent corporate instead of government management of energy and nuclear technology

"Beneficial use of nuclear materials instead of their disposal

"Full and accurate information to Americans about nuclear technology and limitations, challenges and/or non-viability of alternative energy sources

"Revitalization of President Eisenhower's vision of Atoms for Peace, with cooperation among nations for full use of well safeguarded, well managed, and well conceived nuclear technology for peaceful purposes

"Partnership-type actions between workers and managers to resolve concerns about nuclear safety and nuclear materials safeguards, and between regulators and those regulated to ensure the best safety, productivity, and cost effectiveness of nuclear power plants and other licensed nuclear facilities.

"All responses were positive. That from Vice President Gore said that ideas would be considered. At the Global Foundation meeting the following year, Nuclear Regulatory Commission Chairman Nils Diaz said that Senators Domenici and Murkowski supported ideas for a new approach for use of nuclear technology.

"I propose that we form a "Partnership for America" to further develop and implement these ideas for a better approach to resolve long-neglected energy and nuclear technology challenges and avoid adverse consequences inherent in government management of complex technology. I also propose that the U.S. Energy and Nuclear Technology Board, corporations that manage energy and nuclear technology and our partnership adopt the core values of safety, health and the environment, ethics and respect for people that have been exceptional constants of Du Pont for 204 years.

"I hope that you will help form and participate in this partnership.

"Best wishes!

"Sincerely,

"Clinton Bastin"

Response to Mr. Clinton Bastin comment of March 17, 2006

DOE/EA-1547 evaluates the potential impacts of sodium residuals removal only, and does not revisit previous DOE decisions concerning the potential reuse of the FFTF as a nuclear reactor. Those decisions and decision documents are discussed in the EA. Based on the evaluation performed in the EA, if a FONSI decision were to be issued, it would constitute a determination by DOE that the impacts were evaluated and found to be not significant enough to require preparation of an EIS, and that DOE may proceed to implement the proposed action. This comment has been forwarded to the Office of Nuclear Energy for consideration in the GNEP EIS.

From: Kris and GaryTroyer [mailto:kgtroyer@charter.net]
Sent: Friday, March 17, 2006 08:42 AM
To: Chapin, Douglas H
Subject: Comments regarding the Environmental Assessment for residual sodium removal at the FFTF

The following comments are with regard to US DOE request for public comment on the proposed Environmental Assessment affecting the status of the Fast Flux Test Facility at the Hanford Site in the State of Washington.

For the record, these comments should also be considered with on-going public comment period on decision processes for the remainder of the Hanford site. Please include them there, since proper use of the FFTF voids inclusion in the global site planning.

I am aware of several significant items documented by the US DOE and requested by Congress relating to current and emergent energy needs. These build into the Global Nuclear Energy Partnership (GNEP) recently agreed to by the USA and many other nuclear capable countries. This is literally a 180' reversal of energy policy during the momentum of the illegal destruction path in progress for the Fast Flux Test Facility (FFTF). In concert with these initiatives is the pending Federal Registry request for public and private proposals for full advanced nuclear fuel cycle demonstrations anchored on liquid metal cooled advanced burner reactor technology. These emergent concepts are in direct mapping to existing, unused, and under-utilized facilities within the US DOE complex and particularly at Hanford.

I am aware of or in possession of several documents of significance which shows incorrect and likely illegal actions related to the deactivation of the FFTF. Directives, direct wording, and actions show that the intent of the DOE is to decommission the FFTF, not de-activate. This means that if actions are continued, it will illegally succumb to destruction at a time when its technology and infrastructure are desperately needed for the Advanced Fuel Cycle Initiative, the GNEP, and the fast track required for the US to have any timely response to its long term energy needs.

For example, there is a better way of removing residual sodium. Steam has been described by the International Atomic Energy Agency as too dangerous. Two much more benign approaches can be used. The first is merely cap off with existing inert cover gas and close the doors. The second is removal through commercial ammonia process followed by inert gas cap. Both leave the FFTF in a recoverable situation suitable for consideration in the above national policy programs. The EIS alternative 'preserve and make ready for use' is the proper path.

A proposal exists to cut piping out of the containment system. This destroys containment and violates the Record of Decision to only de-activate. This is a decommissioning action that disallows EIS consideration of all options, among these, mothballing, re-utilization, entombment, or green field. The preferred option is 'preserve and make ready for use' in light of emergent policy changes.

The wording of a 'liquid metal cooled advanced burner reactor' is double speak for the fourth generation (GENIV) metal sodium cooled reactor technology demonstrated by the FFTF. We have the initial research reactor in place for this effort. It has a fully NRC approved site for construction. It has proven containment. It has proven performance. The rapidly emergent nuclear energy policy today changes the entire situation heretofore promoted for not using the FFTF. Due to this change, at least the systems must be maintained in a benign and re-useable state until all options are properly considered.

I am also aware of and have participated in discussions of private business operations of the FFTF. Prior to the economically destructive action of drilling the core for sodium removal, a medical isotope venture was viable at all levels. Since those decisions, the US DOE/IG has reported that our country is in serious shortfall of medical and industrial isotope production addressed by the business plan. The ground has changed with both fact and policy. It would be criminal to continue the path to destruction of taxpayer paid resources obviously desperately needed. The proper decision at this time is 'preserve

and make ready for use'.

It is illustrative that the former Secretary of Energy Abraham is now employed by a foreign body promoting the infrastructure that he had a hand in directing deactivation. The importance of this technology and resource is obviously very high. The energy picture for the US and the world has dramatically changed in the interim of these events. The proper action at this time is 'preserve and make ready for use'.

Respectfully

Gary L. Troyer
Nuclear Scientist
614 Cottonwood
Richland WA 99352
(509) 946-3425
Chair - Citizens for Medical Isotopes

Response to Mr. Gary L. Troyer comment of March 17, 2006

DOE/EA-1547 evaluates the potential impacts of sodium residuals removal only, and does not revisit previous DOE decisions concerning the potential reuse of the FFTF as a nuclear reactor. Those decisions and decision documents are discussed in the EA. Based on the evaluation performed in the EA, if a FONSI decision were to be issued, it would constitute a determination by DOE that the impacts were evaluated and found to be not significant enough to require preparation of an EIS, and that DOE may proceed to implement the proposed action. This comment has been forwarded to the Office of Nuclear Energy for consideration in the GNEP EIS.

Information which allow for the safe use of the superheated steam process to react sodium residuals is describe in responses on pages 6 and 12. The comment offers two alternative residual sodium approaches. Capping off the system with the existing inert cover gas is equivalent to the no action alternative considered in the EA. The use of the ammonia process was considered by the EA and identified as a potential technology which could be implemented on a small scale at FFTF.

John T. Baxter
3104 W. 46 th
Kennewick, WA 99337
USA
Phone: 509 582-7620

March 17, 2006

Douglas H. Chapin
NEPA Document Manager
U.S. Department of Energy
P.O. Box 550, Mailstop A3-04
Richland, Washington 99352

Reference: Draft Fast Flux Test Facility Environmental Assessment (EA) for Proposed Sodium Residuals Reaction/Removal and Other Deactivation Work Activities

Dear Sir:

Section "2.1.4 Remove Large Components for Cleaning" of the reference document discusses the use of the Large Diameter Cleaning Vessel (LCDV) in the MASF building for cleaning large components of contaminated sodium contents. This would require some retrofit for the existing installation.

HISTORY

I assembled a team of engineers in late 1990 to look at upgrading the qualification of the existing MASF facility for moderate hazard operations. The goal of the analysis was:

"The analysis objective was to perform an engineering analysis of the facility, which demonstrated that the high bay portion met or exceeded SDC-4.1, (1989), seismic and wind design requirements for use as a moderate hazard facility."

This qualification was needed to support the Fast Flux Test Facility (FFTF) spent fuel off-load program.

During conduct of this facility re-analysis, we discovered that the main foundation anchor bolts for the rigid frames supporting the low and high bay portions of the building were probably off lower capacity than assumed in the original design analyses for the building. The following is an excerpt from the draft analysis report that was never issued because of a stop work issued in April, 1991.

"RESULTS

The MASF is located in the 400 Area on the Hanford Site. The Title II Engineering Report describing the design was issued by the Norman Engineering Co. in 1980. According to this report the building structures were 'designed to protect and maintain the functional

capability of the building and components during and after a natural disaster according to UBC section 2312, seismic zone 2 and wind-pressure-map area of 25 pounds per square foot, per UBC table 23-F. (1976 UBC)'

High Bay Column Anchor Bolts

The high bay is nominally 105' high, 145' long and 97' wide. The primary steel structure consists of 8 very heavy rigid bents spaced 20' apart. The bents are made up of a tapered girder supported by built up columns. Each column is anchored to a 4' by 7' reinforced concrete foundation pier with 8 bolts (see pages A-4,5). Bolts are 2.5" diameter, 5'-11" long, fully threaded and made from quenched and tempered ASTM A449 steel. Bolts with 8 equally spaced heavy hex nuts are embedded 4'-0" into the pier. Some piers have less reinforcing steel than others. After the columns were erected and grouted in place, a nominal 7 kip preload was applied to each bolt and the base was encased by a 2' concrete slab.

Low Bay Column Anchor Bolts

The low bay is nominally 46' high and also 145' long and 97' wide. The primary steel structure consists of 7 rigid bents spaced 20' apart. The bents are made up of a tapered girder supported by W36x230 columns. Each column is anchored to a 2.5' by 5' reinforced concrete foundation pier with 4 bolts (see pages A-4,5). Bolts are 1.75" diameter, 5'-11" long, fully threaded and made from quenched and tempered ASTM A449 steel. Bolts with 5 heavy hex nuts spaced in the upper 30" are embedded 4'-0" into the pier. All piers are equally reinforced. After the columns were erected and grouted in place, a nominal 4 kip preload was applied to each bolt and the base was encased by a 2' concrete slab.

Unusual Features of the Design

Anchor bolts are typically designed so that strength is controlled by the ductile capability of the steel, that is any failure will be in the bolt under a tensile load. The bolt terminates in a hook or a sturdy end plate that is sized so that the pull out capability is greater than the tensile strength of the steel bolt material. There is a large body of experimental and historical data available on the capability of this conventional design.

The MASF design is unconventional in that there is no hook or end plate. Pull out is resisted by a series of heavy hex nuts spaced 6" apart on a fully threaded bolt. A limited literature search has been made but no test data has been found on the capability of this configuration."

RECOMMENDATION

We developed capacity estimates for the anchor bolts which indicated that they had about 50 percent of the capacity required by the original design analyses from Norman Engineering. This finding eventually led to the decision to construct the separate Fuel Storage Facility rather than modifying the existing MASF building for the fuel off-loading program. I've done additional literature search on the question of the structural capacities of the existing MASF

anchor bolts. I've included one key report in the references listed below. A reasonable estimate of the existing anchor bolt capacities can be established by assuming the anchor bolts are large deformed reinforcing steel bars, calculating a required development length using current ACI codes, and comparing the required development length to the embedded length of the anchors in the MASF building column pedestals.

Any future use of the existing MASF facilities for radiological operations should take into account the potential inadequacies in the original anchor bolts design and installation.

ADDITIONAL REFERENCES

Design Drawings

H-4-62201	Rev 2	Typical Details and General Notes
H-4-62202	Rev 2	Foundation Plan
H-4-62203	Rev 3	First Floor Framing Plan
H-4-62204	Rev 2	Concrete Sections and Details - 1
H-4-62230	Rev 0	Steel Framing Sections & Details - 3

Previous Analyses

MASF 8978 Title II Report by Norman Engr. (1980)

Documents

Rehm, Gallus, 1961, "Uber die Grundlagen des Verbundes fur Stahlbeton," Publication 138 of the Deutscher Ausschuss fur Stahlbeton, p. 59, William Ernst & Sohn, Berlin (Translation from the Cement and Concrete Association, London, Translation 134, The Basic Principles of the Bond Between Steel and Concrete, Cj. 134(9/68))

Cordially yours;

(Signature on hard copy in U.S. Mail)

John T. Baxter, P.E.

Response to Mr. John T. Baxter comment of March 17, 2006

The MASF structural analysis for seismic hazard identified was performed to assess a change in mission for the MASF facility to allow the storage of fuel assemblies. As stated in the comment letter, a result of the analysis was the decision to not increase the hazard capability at MASF. The original mission of MASF remained unchanged. MASF's mission includes the maintenance, storage, and cleaning of radioactive hardware, including the removal of residual sodium from large components. The MASF is considered adequate for the radiological operations considered under the proposed action.

OFFICIAL COMMENTS
DOE SOLICITATION FOR A HANFORD
ENVIRONMENTAL ASSESSMENT
February 17, 2006

The following comments are herein officially submitted with regard to US DOE request for public comment on the proposed Environmental Assessment which affects several Hanford issues including the status and ultimate disposal of the Fast Flux Test Facility at the Hanford Site in the State of Washington.

For the record, these comments should also be duly considered with the on-going public comment period on decision processes for the remainder of the Hanford site. It is expected that this input will be a finite contributing portion of the legally required NEPA process; and/or, those public comment requirements required in the CERCLA approval process, if legally applicable. If the request for public comment is independent of both NEPA and CERCLA, I would appreciate being so informed, including the reason if these two regulatory laws are not one of the drivers. Please note that the FFTF must be placed in its proper and legal and appropriate position in several DOE public announcements now in progress.

I am aware of several significant items documented by the US DOE and requested by Congress relating to current and emergent isotope and energy needs. These include two programs addressed by the Inspector General: namely Pu238 production (a national defense issue) and the wholly inadequate supply of medical isotopes for both national research as well as public health. In addition, there is the Global Nuclear Energy Partnership (GNEP) recently agreed to by the USA and many other nuclear capable countries. These new programs represent literally a 180 degree shift in energy policy during the process of planning the ultimate disposition and decommissioning for the Fast Flux Test Facility (FFTF). This reversal in policies places the planning base for the FFTF almost totally in error. Is it going to be corrected? If not, why not?

How is DOE responding to these major changes in policy? When and where does a need for a test reactor arise? How many years could be saved in the national and perhaps the world energy program should the FFTF be renovated and used. This is a multi-billion dollar question; and, I for one insist upon a straight and honest answer from DOE.

These new policies could very likely use the irradiation test capabilities of the FFTF.
What about other billion dollar facilities (some existing; some unused) within the US DOE complex and particularly at Hanford. Will this programmatic facility problem be addressed within the context of the new energy policies? I request as answer as both a taxpayer, as well as a nuclear and business professional.

Because of the horribly outdated planning base on the FFTF, I am aware of incorrect and likely illegal actions in documents related to the deactivation and decommissioning planning of the FFTF. Directives, direct wording, and actions show that the intent of the DOE is to decommission the FFTF, not de-activate which appear to be in direct contradiction of Judge Shea's federal court ruling.

The FFTF is in a recoverable situation (see alleged statements and/or documentation) suitable for consideration for possible use in the above national policy programs. The EIS alternative 'preserve and make ready for use' is the proper temporary path until a thorough and unbiased evaluation can be accomplished [both for new program potential usage as well as the ultimate decommissioning]. This I strongly endorse.

OTHER CONCERNS

A proposal exists to cut piping out of the containment system. This destroys containment (and all of its potential monetary value) and violates the Record of Decision to only de-activate. This is an outright decommissioning action in violation to Judge Shea and disallows EIS consideration of all options, among these, mothballing, re-utilization, entombment, or green field. My preferred option is 'preserve and make ready for use' in light of emergent policy changes.

The FFTF as well as its major support facility—the FMEF—have been reviewed and approved by NRC as an acceptable site for nuclear processes. It has proven containment. It has proven performance. It has been reviewed for seismic adequacy.

The rapidly emergent nuclear energy policy today changes the entire situation heretofore erroneously planned and promoted for not using the FFTF. Due to the recent change in national policies, at least, at a minimum, the systems must be maintained in a benign and re-useable state until all options are properly and legally considered.

The era of THE EMPEROR WEARS NO CLOTHES must, and will end. Stop manipulation and be direct and honest. This is one of the initial activities that starts this rejuvenation. Let us do it ethically, legally, and technically correct for the good of the nation.

Respectfully

Ralph E. Johnson

Response to Mr. Ralph E. Johnson comment of March 17, 2006

DOE/EA-1547 evaluates the potential impacts of sodium residuals removal only, and does not revisit previous DOE decisions concerning the potential reuse of the FFTF as a nuclear reactor. Those decisions and decision documents are discussed in the EA. Based on the evaluation performed in the EA, if a FONSI decision were to be issued, it would constitute a determination by DOE that the impacts were evaluated and found to be not significant enough to require preparation of an EIS, and that DOE may proceed to implement the proposed action. This comment has been forwarded to the Office of Nuclear Energy for consideration in the GNEP EIS.

From: Ralph Johnson [mailto:linktech@ix.netcom.com]
Sent: Sunday, March 19, 2006 01:37 PM
To: Subject: SUPPORT NEPA FW: Give Back Power to the People - A Canada Story 3-19-06

THE LATEST FROM OUR NEPA EXPERT, CONSULTANT, AUTHOR.

From: C ECCLESTON [mailto:ecclestonc@msn.com]
Sent: Sunday, March 19, 2006 12:56 PM
To: Ralph Johnson & others

Subject: Re: Give Back Power to the People - A Canada Story

Amen! Canada has since passed an Environmental Impact Assessment process patterned after guess what - NEPA!

Now if DOE would prepare a P-EIS (as it should) for a national energy program perhaps it, with a little help from citizens who will ultimately pay the bill, could develop a comprehensive strategy for making this nation energy independent.

Charles Eccleston
----- Original Message -----
From: Carl Holder
To: Ralph Johnson & others

Sent: Friday, March 17, 2006 7:36 PM
Subject: Give Back Power to the People - A Canada Story

More proof that a National Environmental Policy Act planning approach with judicious amounts of public comment is a process that is shown, time and time again, to work. I applaud USDOE's Global Nuclear Energy Partnership process that brings NEPA EIS planning alongside Departmental decision-making.
Best regards,
Carl

-----Original Message-----

Give back power to the people
100 years ago Ontarians voted for hydro power over coal. McGuinty must hear citizen voices again, say
David Suzuki and Paul McKay

Mar. 13, 2006. 01:00 AM

Facing an imminent power crisis, Ontario Premier Dalton McGuinty appears poised to hit the political panic button and launch $70 billion in new power plant spending — half of it on nuclear reactors. It will be the largest infrastructure investment in provincial history.
But he needs to keep a cool head and first take close counsel from those who best know how to save billions and avert catastrophe: the public. The proof of that is in Ontario's past.
Exactly a century ago, Ontario faced a similar crisis.
It was utterly dependent on imported Pennsylvania coal for urban electric power, industry, street lighting, home heating, trains and tramways. That coal also cloaked cities like Toronto and Hamilton in soot every winter and smeared the summers with smog.

When U.S. miners went on strike, the coal barges stopped coming. Punishing prices followed. Everyone suffered — except a handful of millionaire moguls who then owned private monopolies on coal supply, power production, electric utility distribution, even public transit routes.
Pleas for price relief and replacement coal supplies went unheeded. The moguls, aptly vilified as "The Electric Ring," gouged on.
One, Henry Pellatt, literally built a castle with his profits a few blocks from Toronto's worst slums. Called Casa Loma, it featured 5,000 electric lights and an indoor swimming pool, bowling alley, rifle range, and roller skating rink.
The power crisis crippled Ontario's manufacturing sector, sparked a public uproar, and galvanized a Conservative premier, James Whitney, into provisionally creating North America's first government electric utility. Then, backed by municipal politicians, he initiated an unprecedented series of public referendums in dozens of cities and towns.
The sole ballot issue was whether to maintain the moguls' coal monopoly, or adopt the plan of Whitney's charismatic ally, Adam Beck. He wanted to build the world's biggest hydro power plant at Niagara, and string wires to bring its "white coal" to all of southern Ontario. With public money.
Town by town, city by city, Ontario citizens vigourously debated and then voted on how their money would be spent. They made a brilliant choice.
Niagara soon provided a clean, cheap, reliable foundation for a modern Ontario economy. It is still running, perfectly, nearly a century later. It provides the province's lowest cost power, with zero pollution.
As Ontario grew, Beck's Niagara success was replicated with some 70 other hydro plants across the province. For the first half of the last century Ontario ran solely on clean, low-cost green power.
The giant utility which built and ran them was universally admired. And premiers garnered the political benefits. It was all applause, no headaches.
That changed in the 1970s, when Ontario Hydro began building a vast fleet of coal and nuclear plants at breakneck speed.
Each was bigger and more expensive than the last. New ones were designed and committed before earlier models were operated or even tested.
Virtually no thought was given to air pollution, or nuclear waste and reactor dismantling problems.
Morphing into the kind of arrogant monopoly the public had sacked a century ago, Hydro effectively told the public to shut up and leave the job to professionals.
The phrase "energy efficiency" was not in Hydro's lexicon. Instead, it goosed power demand by rewarding the biggest users with the cheapest rates and by hiding the capital cost and debt of each new power plant from the rate base until it began operating.
The result was that power appeared to be vastly cheaper than it was and a generation of factories, pulp plants, refineries, smelters, office towers, homes and commercial and public buildings were built to consume, consume, consume.
That meant Hydro had to build, build, build. So it hired some 10,000 engineers and technocrats to design, construct and run them.
By the late 1970s, Hydro was a 500-kilovolt colossus. Yet it planned to expand fivefold, warning that peak demand would reach 90,000 megawatts by 2006. To meet that, the equivalent of 180 new Pickering-sized reactors (or comparable coal units) would be required to avoid blackouts. A new one would have to be commissioned every month. No delays could be tolerated.
Those dire predictions were demolished, however, by reality and extensive public hearings under the aegis of the Porter royal commission.
Hydro's 2006 demand projection proved to be wrong by 60,000 megawatts, or the equivalent of 120 Pickering-sized reactors costing at least $1 billion each.
Sullenly, grudgingly, Hydro cut its expansion plan by half. Some $60 billion in planned public spending suddenly evaporated. So, miraculously, did the prospect of blackouts.
Despite this second lesson in the value of public debate, Hydro pressed on with building the Western world's largest nuclear plant at Darlington.
Citing imminent blackouts, it was exempted from public hearings under Ontario's new Environmental Assessment Act. Originally slated to cost $3.4 billion, it eventually cost almost $15 billion.
When Darlington's cost eventually hit the rate base in the early 1990s, another political backlash followed.

Undaunted, Hydro floated a $60 billion capital expansion plan that was shot down in a series of extensive public hearings held under the Environmental Assessment Act — largely because of Hydro's wonky numbers and an energy conservation strategy that was all posters, no program.
Once again, public hearings saved billions.
But that was soon erased by NDP premier Bob Rae, who imposed a three-year power price freeze, followed by a Conservative premier who vowed (before even inspecting Hydro's balance sheet) to maintain it for his entire term of office.
Mike Harris kept his word. The utility debt soared to almost $40 billion. Worse, a decade of artificially low power rates relentlessly goosed demand once again — and guaranteed the crisis now facing Dalton McGuinty.
What's the pattern here? Utility technocrats and politicians all too often spend other people's money recklessly. The public often spends it far more wisely, precisely because they have to earn it first.
A century ago, Ontarians actively chose a slate of power plants that have since excelled in performance, cost, and cleanliness.
Equally important, a pragmatic, progressive premier, Whitney, was wise enough to encourage full public debate, then show his deep respect for democracy by building what citizens chose: green power plants.
Similar stakes now face the Ontario public, and McGuinty. The $70 billion question is: Will the Premier let the public call the tune, or allow technocrats and nuclear soothsayers to trump informed choice?

Response to Mr. Ralph E. Johnson comment of March 19, 2006

See response of page 40.

Mar 17 06 07:00p Franklin Building 509-547-1888 p.1

Board of County Commissioners
BENTON COUNTY
P.O. Box 190 • Prosser, WA 99350-0190
Phone (509) 786-5600 or (509) 736-3080

Mr. Douglas H. Chapin, NEPA Document Manager
U.S. Department of Energy
Richland, Washington 99352

March 17, 2006

Public Comment: Environmental Assessment EA1547D

The Richland Office of the United States Department of Energy (US DOE RL) intends to scrap out the Fast Flux Test Facility with the work planned in the EA1547D seeking to create authority for decommission actions where no authority exists.

It would be appropriate that you are capable of providing NEPA compliance review to determine your authority under Procurement Rule 216. Past attempts to take this action in the FFTF Closure Project, under CERCLA process was denied by US DOE in front of U.S. District Court Judge Edward F. Shea in Benton County v US DOE in November 2002. A solicitation for the CP was cancelled on December 22, 2005. The reasons given by US DOE RL were budgetary priorities, and National Environmental Policy Act (NEPA) compliance. (See letter attached)

Washington State Department of Ecology and the US Environmental Protection Agency wrote letter, January 19, 2005, "Competing demands for increasingly scarce cleanup resources compel us to focus on those projects that have the greatest potential to address environmental risk: FFTF D&D is not one of those projects."

On February 18, 2006, President George W. Bush called for the Advance Energy Initiative. In response, the Secretary of the Department of Energy has announced the Global Nuclear Energy Partnership. www.gnep.doe.gov Your proposed actions would destroy utilization consideration for unique USDOE properties prior to completion of the court ordered NEPA EIS.

The Presidential Initiative is significant new information that requires NEPA evaluation. In fact, a Global Nuclear Energy Partnership Environmental Impact Statement has been announced. The GNEP presentation was made by Tim Frasier, US DOE HQ NE to Energy Communities Conference in Washington DC on March 9, 2006. Copy Attached. Notice in the Federal Register will soon be provided, and attached hereto.

Very truly yours,
Claude L. Oliver
Benton County Commissioner

Cc: DOE-IG, GAO

Response to Mr. Claude Oliver comment of March 17, 2006

DOE/EA-1547 evaluates the potential impacts of sodium residuals removal only, and does not revisit previous DOE decisions concerning the potential reuse of the FFTF as a nuclear reactor. Those decisions and decision documents are discussed in the EA. Based on the evaluation performed in the EA, if a FONSI decision were to be issued, it would constitute a determination by DOE that the impacts were evaluated and found to be not significant enough to require preparation of an EIS, and that DOE may proceed to implement the proposed action. This comment has been forwarded to the Office of Nuclear Energy for consideration in the GNEP EIS.

March 17, 2006
Mr. Douglas H. Chapin, NEPA Document Manager
U.S. Department of Energy
Richland, Washington 99352
Douglas_H_Chapin@RL.gov
Fax (509) 376-0177
Environmental Assessment EA1547D
I read that the Environmental Impact Statement forum for FFTF decommission will be rolled into the Tank Closure and Waste Management Environmental Impact Statement. The scope of this EIS deals with where to bury the FFTF carcass as it is torn apart.
This tactic would avoid any consideration of a NO ACTION alternative that is a good and valuable consideration alternative in the EIS process. There is no decommissioning authority.
With the announcement of the new Global Nuclear Energy Partnership and a companion Environmental Impact Statement, it is time to void decommission planning until the FFTF reactor and facilities are considered in the Presidential Advanced Energy Initiative, GNEP EIS.
Respectfully yours,
Dave Parmeter

Response to Mr. Dave Parmeter comment of March 17, 2006

DOE/EA-1547 evaluates the potential impacts of sodium residuals removal only, and does not revisit previous DOE decisions concerning the potential reuse of the FFTF as a nuclear reactor. Those decisions and decision documents are discussed in the EA. Based on the evaluation performed in the EA, if a FONSI decision were to be issued, it would constitute a determination by DOE that the impacts were evaluated and found to be not significant enough to require preparation of an EIS, and that DOE may proceed to implement the proposed action. This comment has been forwarded to the Office of Nuclear Energy for consideration in the GNEP EIS.

From: Brownell.Helen@epamail.epa.gov [mailto:Brownell.Helen@epamail.epa.gov]
Sent: Tuesday, February 21, 2006 3:33 PM
To: Chapin, Douglas H
Cc: Ceto.Nicholas@epamail.epa.gov
Subject: Draft National Environmental Policy Act Environmental Assessment for the Sodium Residuals Reaction/Removal and Other Deactivation Work Activities, Fast Flux Test Facility Project, Hanford Site

A letter was sent on this subject to the EPA Hanford Project Office dated February 15, 2006, addressed to Nicholas Ceto, and requesting comments by March 17, 2006.

The EPA has no plans to review or comment on this document.

Helen Brownell
Office Manager
U.S. EPA Hanford Project Office
(509)376-6865
(509)376-2396 (fax)
brownell.helen@epa.gov